CalTrout Report on the CALFED Bay-Delta Program
November 1998

INTRODUCTION

The following information has been prepared for the members of CalTrout in order to help evaluate the CALFED Program and to develop a series of policy positions for CalTrout. CALFED will soon publish another draft EIS/EIR on its preferred alternatives and will expect comments on their study. This report is intended to provide a basis for CalTrout's input and comments.

The contents of this report are:

Except for the sections titled Conclusions and CalTrout Policy Positions, this report is mainly a collection of information from previously existing reports, documents, and correspondence which are listed in the References section.

BACKGROUND

The CALFED Program is an interagency effort involving 15 state and federal agencies with management and regulatory responsibilities in the Bay-Delta estuary. The stated mission of CALFED is to: "develop a long-term comprehensive plan that will restore ecosystem health and improve water management for beneficial uses of the Bay-Delta." During the past two decades, disagreements and conflicts over the use of the Bay-Delta have increasingly taken the form of protracted litigation and legislative battles; as a result, progress on virtually all water-related issues has become mired down, approaching gridlock.

CALFED was created in 1994 as an overall solution to the on-going conflicts over resource management of the Bay-Delta system. As currently defined, CALFED has three phases:

- Phase I, Problem Definition and Range of Solutions Development was completed in September 1996.
- Phase II, Program Environmental Evaluation and Selection of Preferred Alternative, originally scheduled to complete during 1998 now calls for a *Draft* Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) to be completed in December 1998. A period for public comments will follow, leading up to the completion of an EIR/EIS for the preferred alternative.
- Phase III, Implementation of Preferred Alternative, over 20-30 years.

Any problem currently associated with the management and control of water or the beneficial use of water within the legally defined Bay-Delta is within the scope of the CALFED Program. The scope of solutions is broadly defined; it includes the Central Valley watershed, the Southern California water system service area, and near-shore portions of the Pacific Ocean out to the Farallon Islands and north to the Oregon border. It "potentially includes any action which could help solve problems identified in the Bay-Delta." Because of its comprehensive nature, the CALFED process has become central to all California water planning.

CALFED includes a storage and conveyance component and "common programs" which will be implemented simultaneously with the preferred program alternatives for storage and conveyance. The common programs are ecosystem restoration, water use efficiency, water quality, levee system integrity, water transfer policy, and watershed management. CALFED describes itself as fundamentally different from previous efforts because it seeks to address the common programs as co-equal program purposes while addressing further storage and conveyance options. According to CALFED, these Program elements must:

- Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species.
- Provide good water quality for all beneficial uses.
- Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system.
- Reduce the risk to land use and associated economic activities, water supply infrastructure and the ecosystem from catastrophic breaching of Delta levees.

The San Francisco Bay/Sacramento-San Joaquin Delta estuary (Bay-Delta) is the largest estuary on the West Coast. It is a haven for plants and wildlife, supporting over 750 plant and animal species. The Bay-Delta is critical to California's economy, supplying drinking water for two-thirds of Californians and irrigation water for over 7 million acres of the most highly productive agricultural land in the world.

The Bay-Delta is also the hub of California's two largest water distribution systems – the Central Valley Project (CVP) operated by the U.S. Bureau of Reclamation and the State of California's State Water Project (SWP). The CVP and SWP were built to provide river regulation, improvements in navigation and flood control, water supplies for irrigation, municipal, and industrial uses, and hydropower generation. In addition, at least 7,000 other permitted water diverters have developed water supplies from the watersheds feeding the Bay-Delta estuary. Together, these water development projects divert about 20 percent of the natural flow of the system in a normal rain year and 70 percent in a dry year.

When combined with the effects of increased population pressures throughout California, the introduction of exotic species, and numerous other factors, these water diversions and the related facilities have had a serious impact on the fish and wildlife resources in the Bay-Delta estuary.

The most intense conflict over the available water supply occurs during times of drought. It is during these times that fish and wildlife are most stressed and demands for water

from the Delta are greatest. An important part of the CALFED approach to this conflict is to take water from the system in times of plenty and then to release these flows in times of need. By supplementing the existing flows during drought periods, the CALFED Program may be able to help prevent disastrous consequences to fish populations that travel through, live in, or are in some ways dependent upon the Delta for habitat during critical life stages. These additional flows will also improve water supply reliability. Through the creation of additional aquatic habitat along the rivers tributary to the Delta, removing obstructions to upstream fish migration, recreating spawning beds, restoring riparian vegetation, increasing the acreage of wetlands, and restoring more natural flow patterns within the Delta, CALFED hopes to help restore fish and wildlife whose viability has been threatened by land and water development.

CONCLUSIONS

Conclusions about the CALFED Program which relate directly or indirectly to fishery interests are:

1. Recovery actions for Central Valley Steelhead are inadequate and lack specifics, even though specific actions exist in the Steelhead Restoration and Management Plan for California.
2. CALFED has unjustifiably excluded the Trinity River from its scope.
3. CALFED has been premature in emphasizing storage, conveyance and export alternatives in order to solve the problems of the Bay-Delta.
4. CALFED's claim that there are minor cost differences between the three storage and conveyance alternatives does not stand the test of ordinary logic. It is hard to believe that 40 percent of the CALFED Program costs are related to the common programs – unless increased storage costs are being attributed to the common programs. It is one of the many indicators of CALFED's bias toward Alternative #3 (an "isolated facility," i.e. a Peripheral Canal) for water export.
5. CALFED has noted that most of their stakeholders want increased water use efficiency of existing supplies before undertaking major construction. It is not clear that CALFED is responding to their stakeholders.
6. Recent pressures to defer construction alternatives in order to allow 7 to 10 years for the common programs to work has been met with mixed signals by CALFED and the Governor. It is likely that the Draft EIS/EIR to be released in December will provide a clear indication of the CALFED direction.
7. The amount of water currently being exported from the Bay-Delta may be putting the ecosystem dangerously close to disaster; further export facilities or increased pumping capacities cannot be risked until more is known about the effects of further removals of fresh water inflows.
8. Contrary to CALFED statements about a strong emphasis on efficient use of developed water supplies, the practices of most California agriculture and municipal water users is wasteful and has been well documented. Although agriculture and most municipalities would claim to the contrary, actual practices, when taken in the aggregate, contradict those positions.
9. Poor water use efficiency is the root cause of the problems that CALFED is trying to solve; water use efficiency (conservation) is the key to solving water supply and related problems.
10. California agencies have lacked the political clout and legislative authorities to develop and enforce meaningful conservation and water quality measures; CALFED may be on the road to perpetuate these same practices.
11. CALFED appears unwilling to recognize the significance of agricultural return flows on water quality or to deal forcefully with the issue.
12. Water quality improvements are not dependent on the construction of a canal around the periphery of the Delta nor on additional surface storage or conveyance options; construction of a Peripheral Canal allows CALFED to avoid solving the root cause of the water quality problems.
13. CALFED's major recovery plans, described in the Ecosystem Restoration Program Plan, are generally lacking in measurable goals, objectives, or performance criteria – especially considering that the next phase of this Plan is "Implementation."

CALTROUT POLICY POSITIONS

As a result of the cumulative effect of these conclusions and the information contained in this report, the following are the recommended policy positions for CalTrout. The significance of developing policy positions on the key issues is that another draft EIS is due in December; CalTrout needs to be ready, both individually and as a part of the Environmental Water Caucus, with a quick and meaningful response before and during the comment period.

The underlying assumptions to these recommended policy positions are that:

- CALFED restoration plans for steelhead in the Central Valley are inadequate.
- California has already developed adequate infrastructure and enough water supplies for the foreseeable future.
- Water conservation is the key to the problems that CALFED is being asked to solve.

The recommended policy positions are:

1. CALFED should adopt the Steelhead Restoration and Management Plan for California as the main steelhead action plan for the Ecosystem Restoration Program Plan. The recommended actions for the following Central Valley rivers that are specified in the Plan should be adopted:

    - Mainstream Sacramento River
    - Upper Sacramento River and Tributaries
    - Mill, Deer, and Antelope Creeks
    - Butte Creek
    - Yuba River
    - American River
    - Mokelumne River
    - San Joaquin River

2. CALFED should include the Trinity River watershed in its scope of solutions and support further ecosystem restoration projects in this watershed.

3. The orientation of CALFED must change from the current objective to build additional storage, conveyance, and export facilities to an objective and action plans that are designed specifically to avoid building additional export facilities for the foreseeable future.

4. CALFED must recognize that water conservation is the key to solving water supply problems. The Water Use Efficiency Program must become the key program for CALFED's energy, investment, and action plans for the future.

5. The revised Water Use Efficiency Program must contain new legislative mandates, regulations, and enforcement powers for CALFED agencies to assure implementation of cost effective water conservation, water transfer, and water reclamation programs

that apply to both agricultural and urban users. Without forceful water conservation measures, CALFED may be judged in violation of the California Constitution (Article X, Section 2) which requires that public policy place a strong emphasis on efficient use of developed water supplies.

6. CALFED must develop aggressive action plans to address the agricultural return flow problems in the Delta and at the O'Neill Forebay. California's drinking water should be cleaned up at its source and not left only to treatment by municipalities.

7. The Ecosystem Restoration Program, Water Use Efficiency, and Water Quality Programs must contain specific actions, measurable performance goals and objectives, and well defined target dates for each action as the first step of CALFED's commitment to the revised objectives for the Bay-Delta.

8. CALFED must give the common programs of Ecosystem Restoration, Water Use Efficiency, and Water Quality at least a decade to operate and then determine what future direction CALFED needs to take.

The remaining sections of this report describe the components of the CALFED Program.

CALFED STORAGE AND CONVEYANCE ALTERNATIVES

1. Storage Facilities

CALFED considers a number of new or enlarged water storage facilities in its Phase II Interim Report, including:

- Enlargement of Shasta Reservoir
- Sites-Colusa Reservoir (New-Sacramento Valley)
- Enlargement of Millerton Reservoir
- Montgomery Reservoir (New-San Joaquin Valley)
- Bacon, Woodward, and Victoria Islands conversions
- Enlarged Los Vaqueros Reservoir
- Los Banos Grandes Reservoir (New-Los Banos)
- Garzas Reservoir (New-Southwest Stanislaus County)
- American Basin Conjunctive Use Project (Groundwater storage)
- Kern Water Bank (Groundwater storage)
- Madera Ranch Project (Groundwater storage)

2. Conveyance Facilities

CALFED has developed three conveyance facility alternatives, one of which is intended to become the "preferred alternative."

- Existing System Conveyance – the Delta channels would be maintained essentially in their current configuration. It could include new conveyance facilities for increasing south Delta pumping capacity or new water storage facilities.
- Modified Through Delta Conveyance – it includes an intertie between the Tracy and Banks pumping plants, more efficient water conveyance from the Sacramento River, system modifications in the north and south Delta to improve water conveyance, and additional surface and groundwater storage.

- Dual Delta Conveyance – a combination of modified Delta channels and a new canal or pipeline connecting the Sacramento River to the SWP and CVP export facilities in the south Delta. Capacities for this new "isolated conveyance facility" would initially be in the range of 5,000 to 15,000 cubic feet per second. A diagram of this third alternative is attached.

CALFED indicates that there are relatively minor differences in costs among the alternatives. The total cost differential among the alternatives is on the order of $1.5 billion, whereas total program cost will be on the order of $10 billion including the upper range (6 MAF) of storage analyzed. Approximately $4 billion of the cost is for the common programs. Approximately $5 billion of the cost is for storage if included.

CALFED evaluates each of the three alternatives in view of 18 distinguishing characteristics, such as storage and release of water, water transfer opportunities, total costs, habitat impacts, in-Delta and export water quality, diversion effects on fisheries, Delta flow circulation, water supply opportunities, and others. In comparing the three alternatives, CALFED concludes that "although Alternative 3 has on balance ranked higher that the others on these characteristics, there are significant additional issues that affect selection of a preferred program alternative."

3. Recent Pressures

An examination of the above information, taken directly from CALFED's Phase II Interim Report, indicates the bias toward the creation of more facilities to capture and store water. The bias is most evident in the attention being given by CALFED to the "development of a preferred alternative" for additional storage facilities. Although the total budget for CALFED is not known, there is little doubt that the largest single percentage of CALFED's expenditures to date have been associated with the examination and alternatives for moving water around the eastern periphery of the Delta in order to satisfy water supply and water quality problems.

As perhaps the leading indicator of that bias, most of the common programs (ecosystem restoration, water use efficiency, and water quality) are in their early stages of development (vision statements with soft or non existent implementation targets) while the storage and conveyance component is much further advanced and includes the detailed results of the examination of 12 alternative ways to move water around and through the Delta for increased water exports. The Draft EIS/EIR, to be completed at the end of 1998, will undoubtedly focus on the preferred construction alternatives.

During the last few months, CALFED has been receiving extensive policy pressures to defer any decisions on construction of major facilities until the common programs are given a reasonable time period to produce results.

As reported in the Contra Costa Times on June 17,1998, Governor Wilson and Interior Secretary Babbitt issued a joint news release where they agreed that "California will spend 7 to 10 years monitoring the results of "soft solutions" before finally deciding whether to build any monumental projects, such as new reservoirs or the canal around the Delta." "Wilson and Babbitt said the recommended CALFED solution will be carried out in stages over decades, with the first phase to emphasize solving problems without new reservoirs or a canal."

On the other hand, CALFED's press release related to the same meetings had this quote by Governor Wilson: "I am pleased that Secretary Babbitt also shares my desire to conclude a package of interim measures to ensure regulatory stability and progress on our immediate water quality and water supply needs *while the permanent solutions are being built.*" (My italics)

Attached to the press release was a CALFED document: *Approach to Developing (the) Preferred Alternative.* It indicates that the Final Draft EIS/EIR, to be released at year end, will have a first stage of implementation that shall "Be defined as the period prior to final action on any major surface storage or new channel conveyance projects as may be

contained in the CALFED draft preferred alternative (seven to 10 years)." Another part of the same document states: "The Final Draft EIS/EIR will contain a financing package and cost-share arrangements *to implement the preferred alternative."* (My Italics)

On June 28, Governor Wilson wrote a letter to Newt Gingrich requesting a $147 million appropriation for "the cost of planning, feasibility studies, environmental studies, permitting, and land acquisition for a down payment on the water supply and water quality portion of the CalFed effort." The letter stated: "There are many excellent projects that can be pursued....such as a modest increase in the height of Shasta Dam..."

As recently as September 15, the Los Angeles Times produced an article entitled: "MWD Readies Protest as Hope for Canal Fades." The article commented that "officials of a state and federal program (CALFED) designed to save the troubled Sacramento-San Joaquin Delta have retreated from an earlier *promise* (My Italics) to consider building a 44-mile canal." The article stated: "The canal idea was revived earlier this year by CalFed but has now been indefinitely delayed."

4. The Condition of the Bay-Delta

CALFED data indicates that water removal from the Bay-Delta totals 20 percent during normal years and 70 percent in dry years. Past studies of other impaired and collapsed bodies of waters in the world have indicated that no more that 25-30 percent of the natural flows can be diverted without disastrous consequences. CALFED appropriately points out that many of the leading indicators of a disaster for the Delta have already been recorded: serious salt water intrusion, loss of plant and wildlife habitat, polluted water supplies, endangered and threatened plant and animal species. It should be noted that, in the world's most impaired or collapsed waterways, these results did not occur all at once, but developed slowly at first and more rapidly toward the end of less than a decade of over-withdrawals.

CALFED does not know how much more water can be diverted without causing a disaster. Further research needs to be done and a conservative approach to water export or construction must be taken in order to avoid further degradation and possible collapse of the Bay-Delta as we know it.

CALFED ECOSYSTEM RESTORATION PROGRAM PLAN (ERPP)

1. Size and Scope

This program can have far reaching and positive consequences for fish and wildlife and can have a very direct impact on the recovery of steelhead populations in the Central Valley, which are now listed as threatened under the Federal Endangered Species Act.

The ERPP consists of a 350 page Volume I that outlines the "Visions for Ecosystem Elements." The elements include:

- Ecological process visions – such as visions for Central Valley streamflows, Central Valley stream temperatures, natural sediment supply, stream meander and like processes.

- Habitat visions – such as tidal and non-tidal habitat, wetlands, grasslands and sloughs.
- Species and species group visions – such as Chinook salmon, steelhead trout, delta smelt, striped bass and 27 other species or groups.
- Visions for reducing or eliminating stressors – such as water diversions, dams, reservoirs, gravel mining, dredging, and other disturbances.

ERPP Volume II (453 pages) describes the Ecological Zone Visions for the 14 zones that constitute the CALFED study geography. The zones are grouped according to dominant physical habitat and species types; examples are the North Sacramento Valley Zone, the Colusa Basin Zone, the San Joaquin River Zone, and similar divisions.

2. Central Valley Steelhead

The lack of recognition of a federally listed threatened species (Central Valley steelhead) is a major deficiency of the ERPP; the failure to identify program actions that will recover steelhead must be addressed. Most of the steelhead restoration measures are actually designed to restore Chinook salmon and the ERPP failure to recognize life history differences will lead to failure to recover anything more than remnant populations of steelhead. The major single factor limiting steelhead populations in the Central Valley is the blocked access to 95% of the historical spawning and rearing habitat because of large dams. Consequently, steelhead are relegated to spawning in low elevation reaches that were historically only used as migration corridors. This has had a much greater impact on steelhead than it has on Chinook salmon because steelhead must rear in freshwater for one to three years before migrating, compared with a few months for salmon. Consequently, water temperature below dams must be suitable for their rearing in this less suitable habitat, whereas, the water temperatures in these previous migration corridors was not significant for steelhead.

This combination of blocked access to desirable higher elevation tributaries and the high water temperatures below the dams has lead to their near extinction in Central Valley watersheds. Although the National Marine Fisheries Service (NMFS) listed steelhead in the Central Valley ESU as threatened, the actual decline in numbers (from historic highs of 40,000 fish to the current 4,000) is indicative of a catastrophe for the species in this ESU. Extraordinary measures are therefore in order to restore access to historical habitat above large dams or to provide adequate tailwater temperatures year round where access to the historical spawning and rearing habitat above the dams cannot be accomplished. This means that research and development work and pilot projects are required as a part of the next phase of ERPP to attempt the following kinds of extraordinary restoration actions: trapping and trucking of adult steelhead, installation of fish ladders, trials of fish elevators (which have had some success in Europe), and collection facilities for smolts at the tributaries.

California Trout's interest is toward the restoration of steelhead populations and native trout that have been decimated by the storage and conveyance components of the two previous major California water projects (CVP and SWP). It is difficult to visualize that further facilities of the same type and with the same purposes will now be able to restore, to a sustainable level, these declining fish populations and their declining habitat.

CALFED describes the Ecosystem Restoration Program Plan (ERPP) as "a fundamental shift in the way ecological resources of the Central Valley are managed. Historic efforts at individual species regulation and management will be replaced by an integrated systems approach that aims to reverse the fundamental causes of the decline in fish and wildlife populations." The size and scope of the ERPP is breathtaking. If implemented with the intentions described in the plan, it would represent significant habitat improvements for fish and wildlife. On the other hand, the ERPP lacks recognition of steelhead trout as an endangered or threatened species and the types of recovery actions described are not adequate for the restoration of steelhead throughout the Central Valley. They will not "reverse the fundamental causes of the decline in fish and wildlife populations" as described in the ERPP. Additionally, CALFED has constructed the ERPP so that it is dependent upon the construction of additional water facilities to accomplish many of the restoration actions; there are better choices, as described below.

3. The Steelhead Restoration and Management Plan for California

CalTrout is a strong supporter of the Steelhead Restoration and Management Plan for California, which is the Department of Fish and Game's response to a legislative mandate (SB 2261 Salmon, Steelhead Trout and Anadromous Fisheries Program Act, 1988) to double anadromous fish populations from their 1988 levels. Although shown in the References Section of the ERPP, no mention is made of the California Steelhead Plan; it needs to be the basis by which CALFED selects and implements recovery actions for steelhead.

The ERPP recognizes that the decline of steelhead trout are the cumulative result of dam construction, excessively warm temperatures, water diversions, loss of migration cues because of reverse flows in the Delta, unscreened or poorly screened diversions, and harmful land use. It recognizes the need to restore degraded spawning and rearing habitat in tributary rivers, to restore access to historic habitat that is blocked, and the need for special fishing regulations consistent with restoration activities. It recognizes that "Providing stream flows, improving fish ladders, and *removing dams* (my Italics) will contribute to efforts to rebuild steelhead populations." The general target for steelhead is "to maintain the adult population at a ratio much greater than 1.0 while the individual stocks are rebuilding to desired levels." CalTrout will certainly support such an implementation target. What are lacking, however, in the ERPP are the specific actions and measurable activities to make these visions a reality.

CALFED can certainly be faulted for spending three to four years and millions of dollars and have only a series of Vision Statements to show for its work in habitat restoration. Despite that criticism, CalTrout needs to support the next phase of the ERPP with the development of specific actions, measurable goals and time frames, using the California Steelhead Restoration Plan as its basis.

4. Miscellaneous Comments on ERPP

The wide scope of subjects and the intended visions described throughout the two volumes are laudable. It is probably the largest single compendium of habitat restoration activities and intentions ever compiled for the Bay-Delta. If there is to be any success in restoring steelhead and native trout habitats, it will be through the ERPP.

Most of the visions stated in the ERPP are general in nature. An example from the steelhead trout vision section is: "to achieve naturally spawning populations of sufficient size to support inland recreational fishing and that fully use existing and restored habitat areas." As previously stated, the vision is laudable and in keeping with CalTrout's mission and strategic plan. What is lacking are measurable goals and targets that CalTrout needs to insure are developed for steelhead trout and to see that those activities are built into the forthcoming implementation phases of the ERPP.

The ERPP fails to include the Trinity River watershed in its study areas or ecological zones. As a result of the Central Valley Project, the Trinity River is hydrologically connected to the Sacramento River and Delta. The Trinity contributes almost 1 million acre feet of water to the Delta inflow and has a significant favorable impact on water quality in the Delta. The Trinity has good potential for ecosystem restoration and recovery of steelhead stocks. For all of the above reasons, the Trinity should be included within the scope of CALFED solutions.

CALFED WATER USE EFFICIENCY COMPONENT

1. Water Use Efficiency Component Programmatic EIS/EIR

The following paragraphs in this first section are taken directly from the CALFED Water Use Efficiency Component Programmatic EIS/EIR Technical Appendix:

California public policy places a strong emphasis on efficient use of developed water supplies. The California Constitution (Article X, Section 2) prohibits "waste and unreasonable use" of water and excludes from water rights any water that is not reasonably required for beneficial use.

California's strong public policy emphasis on efficiency, and Californians' strong conservation ethic are reflected in many outstanding water use efficiency and conservation efforts throughout the state. California irrigation districts and growers have implemented pioneering methods to manage water supplies and improve efficiency.

During April and May of 1996 a series of meetings and workshops were held to explain the CALFED Program alternatives. Citizens from all parts of the state expressed strong support for water use efficiency. There is a strong sentiment that water use efficiency should figure prominently in all the alternatives, and that existing supplies must be used efficiently before we undertake costly efforts to develop additional supplies or improve the ability to convey water across the Delta. The CALFED Program recognizes and agrees with this view and believes that the water use efficiency component has been developed to optimize the implementation of feasible and effective efficiency measures.

2. Comments on the Water Use Efficiency Component

Despite the intentions described in the above report, CALFED has vastly underestimated the potential for water conservation in both the urban and agricultural sectors. CALFED incorporates many of the flawed assumptions of the current California Water Plan Update (Department of Water Resources Bulletin 160-98). These include:

- Overestimation of current demand by more that 1 million acre feet (MAF), as verified by the California Research Bureau in testimony to the Senate Select Committee On CALFED.
- DWR past projections about water use have consistently exceeded actual use in their five year plan updates.
- CALFED adopts from Bulletin 160-98 the assumption that urban areas will generate 1.5 MAF of conserved water; this figure is not verified and is believed to be too conservative. (Los Angeles currently uses the same amount of water that it did in 1972 even though population has increased by 1 million.)
- CALFED has adopted from Bulletin 160-98 the flawed assumptions regarding the potential for savings from agricultural efficiency. In particular, CALFED assumes no savings can be achieved from changes in irrigation practices.
- Bulletin 160-98 and CALFED treat supply and demand as independent quantities despite basic economic theory. Demand does not exist in a vacuum but is tied to willingness to pay a particular price for a particular good. Price, if allowed, will work as an equilibrating mechanism to balance supply and demand. The water use efficiency program inappropriately excludes consideration of pricing mechanisms to improve water use efficiency. Experience shows that water users will respond to price increases in a variety of ways, including investment in efficient technologies, more intensive water management, fallowing of marginal lands, changes in cropping patterns, and similar moves.

The Bureau of Reclamation contracted with Pacific Institute to perform an independent review of the Water Use Efficiency Component to explore assumptions, data, and conclusions. The key points from that report are summarized below:

- CALFED's stated objective is to reduce the mismatch between future supply and demand and to focus on supply reliability rather than to quantify demand. This argument is used to downplay the importance of the actual estimates of potential for the conservation options. This casual approach toward the numbers biases the choice of a preferred alternative by not providing a full and accurate account of the potential for demand management to reduce the discrepancy between supply and demand or the relative benefits and costs of demand management compared to developing new supply.
- There is a misrepresentation about the definition and role of water-use efficiency improvements. In CALFED, such improvements are incorrectly treated as supply options in the water balance, rather than as direct reductions in future demand. *This leads to grossly inflated estimates of future water needs* (Italics mine).
- Basic economic principles receive inadequate treatment and attention throughout the report. Both water demand and supply levels are projected independent of costs, prices, subsidy considerations, and market forces, and are therefore incomplete and unrealistic.
- The benefits of promoting water conservation in urban areas are understated and misrepresented. A wide range of potential improvements that have been left out should be brought into the assessment.
- The potential for urban demand management appears to ignore a wide range of existing cost-effective technologies and policies. Detailed residential end-use studies

suggest that even the current generation of conservation options can reduce indoor and outdoor end use to well below the levels assumed by CALFED.

- The benefits from improving water use in agriculture are understated and incorrectly described. These benefits include decreases in agricultural applied water needs, increased availability of water for other agricultural or non-agricultural uses, improvements in instream flows and quality.
- These (data) flaws lead to overestimates of future water demand and underestimates of the potential for cost-effective water-use efficiency improvements by the year 2020 in both the urban and agricultural sectors.
- Despite these uncertainties, there is a very high likelihood that appropriately designed water-use efficiency programs will generate large, cost-effective improvements in water-supply reliability, water quality, and ecosystem health. The framework and implementation of these programs have yet to be adequately addressed by CALFED.
- Many of the uncertainties associated with the water-use efficiency programs can be reduced with modest investments in data collection and analysis. *Until proper comparisons are made between demand-management potential and new supply infrastructure, large investments in new water-supply systems should be delayed, since they may prove economically and environmentally unjustifiable* (Italics mine).

The numbers and data are important. With so much of the existing developed water supply being used by agriculture (33 MAF annually, or 79% of the total in a normal year), only a 10% conservation goal for agriculture would be more than enough "new" water supply to satisfy all population projections through the year 2020. Reduced water usage by agriculture, when combined with similar municipal and industrial user reductions would most likely be adequate to provide the water needed for the Ecosystem Restoration Program as well.

A June 24 letter to Governor Wilson and Secretary Babbitt, signed by 16 California Congressional Representatives states: "we believe that the options included in CALFED's draft EIS (March 16, 1998) do not give appropriate emphasis to maximizing the efficient use of water resources in California." Also: "...we consider it essential that CALFED avoid endorsing a 'business as usual' approach that promotes costly, environmentally controversial water projects....we believe that only after a genuine effort is made to maximize the efficient use of current supplies will there be support for additional facilities."

On-farm experience has shown that conversion to higher technology irrigation methods, where appropriate, produces the following benefits with a favorable return on investment to the farmer:

- Reduced water usage and costs, frequently as much as 25%
- Reduced use and costs of pesticides
- Reduced energy costs to pump water
- Reduced agricultural return flows to streams and groundwater aquifers
- In some cases, increased crop yields

3. Summary of Previous CalTrout Comments to CALFED, May 1998

CalTrout's main concern in reviewing the CALFED Phase II reports is the lack of attention to aggressive conservation approaches as a solution to California's water supply and quality issues. Contrary to the assumptions in the reports, California has already developed a sufficient water supply for the foreseeable future. The challenge is to apply rigorous conservation actions that will affect a redistribution of the existing supply and contribute to solving the water quality issues. We believe that CALFED has not been willing to tackle the difficult issues related to California agricultural and urban water usage and its impact on demand.

On the subject of water pricing, the recently drafted State Water Plan indicates that a 10% increase in the price of agricultural water could produce a 3.2% reduction in demand, based on a computer simulator. Since that magnitude of price increase is modest ($1 to $4 per acre foot for Central Valley farm corporations), and since a 3.2% demand reduction is more than 1 million acre feet of water, this seems like a direction to be aggressively pursued by CALFED. A goal of 10% reduction in water usage by agriculture would appear to be an achievable goal in view of agriculture's own experience with water conservation measures. A modest 10% reduction in agricultural water usage, through pricing or other means, will solve California's forecasted water supply problems well into the next quarter century.

CALFED has a responsibility to the citizens of California to pursue policies that cause demand reductions and redistribution of existing state water supplies. We know that corporations, when faced with increasing supply costs, and in a competitive price environment that won't let them simply increase their prices, will invest in technologies that cause efficiencies in their operations; California agricultural corporations are no different. And we also know that most of California agricultural production is dominated by large corporations. We have learned that whenever we subvert our free market economy, as we do with the current artificially low contract pricing of CVP and SWP water to agriculture, we create anomalies such as the way water is currently used in California. Urban areas have proven that water usage can be reduced by more than 30% when faced with equipment pricing incentives and baseline/tiered pricing. A 10% reduction in agricultural water usage would seem like a very achievable goal. CALFED has a responsibility to the citizens of California to pursue that kind of goal.

CalTrout's previous comments were made at a CALFED public hearing in March and were incorporated in a letter to CALFED in May. CalTrout is also a member of the Environmental Water Caucus which provided public comments to CALFED on its Phase II reports.

5. Further Comments

CalTrout feels that the state of California has already developed more than enough water supply to satisfy all current populations projections for agricultural, municipal and industrial needs for the next quarter century and that the overriding emphasis for CALFED has to be the conservation, redistribution, and recycling of existing water supplies. To continue the cycle of additional and increased storage facilities on our major rivers, additional canals for the removal and transport of fresh water from major rivers, and additional pumps for water export will only perpetuate the existing inefficient and non sustainable use of our water resources to the continuing detriment of fish and wildlife in the Bay-Delta and connecting watershed rivers.

We believe that the urbanized population of California understands that the further "development" of water supplies through massive diversionary projects without meaningful conservation measures will perpetuate wasteful water use practices. It will do little to solve Delta water quality problems and will continue the decline of our state's native fisheries. On the other hand, modest conservation measures applied primarily to agriculture, but also to urban areas, can produce the desired results without a multi billion dollar investment in additional major facilities.

An aggressive agricultural and municipal water conservation program, reinforced with legislation, enforceable regulations, and the elimination of subsidized water pricing and coupled with compatible water transfer and recycling programs (for both agriculture and urban users) needs to be an integral and integrated component of the CALFED Water Use Efficiency Program. That type of program needs to be given a long period of implementation (7 to10 years) so that the results can be assessed and adaptive management changes implemented prior to any decision to construct major storage and conveyance facilities.

The efficient use of California water is the key to solving the main problems that CALFED has been asked to address.

CALFED also needs to investigate the extent of illegal diversions within the geographic scope of CALFED. The incidence of illegal diversions is reputed to be numerous and could be diverting significant amounts of water from the system. This is a potential problem that CALFED agencies need to explore and take appropriate actions if it is a serious problem.

CALFED WATER QUALITY PROGRAM

1. Water Quality Program Programmatic EIS/EIR

The following paragraphs in this first section are taken directly from the CALFED Water Quality Program Programmatic EIS/EIR Technical Appendix:

The CALFED Bay-Delta Program's goal for water quality is to provide good water quality for environmental, agricultural, drinking water, industrial, and recreational beneficial uses. During Phase I, parameters of concern were identified and a preliminary set of actions was developed. During Phase II, the list of parameters of concern and water quality actions were refined, performance measures and indicators of success for each action are defined, and monitoring and research needs are defined. Phase III will include the Water Quality Implementation Plan. CALFED recognizes that the necessity to formulate the Water Quality Program at a level of detail appropriate to a programmatic environmental document (Phase II) leaves many questions unanswered. Water quality problems are not spelled out in detail and the actions to address the problems are described only generally. At the programmatic level of detail, the identified actions constitute a commitment to improving water quality. In many cases, this commitment cannot be fulfilled until additional study, evaluation, feasibility determination, and pilot scale implementations are accomplished. These activities must be relegated to Phase III of the process.

CALFED's Water Quality Program includes a table of 27 parameters of concern (metals, pesticides, toxins, viruses, and similar substances), a list of the 152 impaired waters, defined by the Clean Water Act 303(d), and 25 water quality actions.

2. Comments on the Water Quality Program

The program falls far short of what might be expected of a program that is about to go into its self-described Implementation (Phase III) stage. The program is largely based on providing a high quality export water supply from the Sacramento River without dealing with the sources of the water quality problems in the Bay-Delta.

The Environmental Protection Agency (EPA) has indicated that the two major sources of water quality problems for the Bay-Delta are:

- Salt water intrusion into the Bay-Delta
- Agricultural return flows into the Delta and into the O'Neill Forebay.

The combination of these two sources is the cause of salinity issues, bromides, viruses (Giardia and Cryptosporidium), and total organic compounds (TOC) for export water. CALFED's preferred alternative, which will remove more fresh water input from the Bay-Delta, can only increase the salt water intrusion problem for the Delta. CALFED's apparent solution is to build more water storage facilities to make up for the removal of additional Sacramento River water.

The issue of agricultural return flows is almost ignored by CALFED. The Bay-Delta has numerous agricultural drainage return points, some in close proximity to CVP/SWP pumping locations. No action plans address this issue. Water quality measures are taken at the Banks Pumping Plant while San Joaquin River agricultural return flows are put into O'Neill Forebay, after the water is pumped through Banks. Again, no action plans are included that would deal with this issue which directly affects Southern California water quality.

3. Southern California Issues

The Metropolitan Water District of Southern California (MWD) is the single largest water user of the State Water Project (60% or 2MAF). The concerns of the MWD are to take care of the growing population of Southern California and to have high quality water to mix with the highly saline Colorado River water which is also used by MWD. Los Angeles has done an admirable job in water usage and conservation: Los Angeles uses the same amount of water as it used in 1972 while it's population has grown by 28% (more than 1 million people). Demand for water is flat in the Los Angeles area –through a combination of conservation and water recycling.

MWD's latest policy statement has pointed out the need for quality improvements, especially in TOC's, bromides, and salinity. While these issues must be forcefully dealt with or they can become a public health hazard, as MWD points out, they do not require the urgent need to construct a Peripheral Canal. Water quality problems need to be dealt

with by a combination of CALFED sponsored solutions at the sources and local treatments to clean the transported water.

Southern California needs to take more responsibility for some of its local water issues – issues that can directly affect CALFED. Groundwater supplies, which are plentiful, need to be better protected from continuing salt water intrusion. Further investments in water recycling need to be explored and acted upon. Technologies are being developed and can be expected to come on line during the CALFED planning horizon that will deal with the salt water intrusion and recycling issues.

Drinking water treatment technology is changing rapidly and becoming more affordable. Water systems will have to comply with stricter standards that will be set early in the next century (by the EPA) years before any of the conveyance or storage options identified by CALFED could be built. This means that water systems will have to come up with system specific strategies to comply in the near term. If urban water districts have no need for the engineered CALFED projects when they come on line, they will be unwilling to pay a share of the costs, leaving taxpayers with enormous stranded assets. For all of these reasons it is premature to select a one-size-fits-all engineering solution to improve export water quality.

OTHER CALFED PROGRAMS

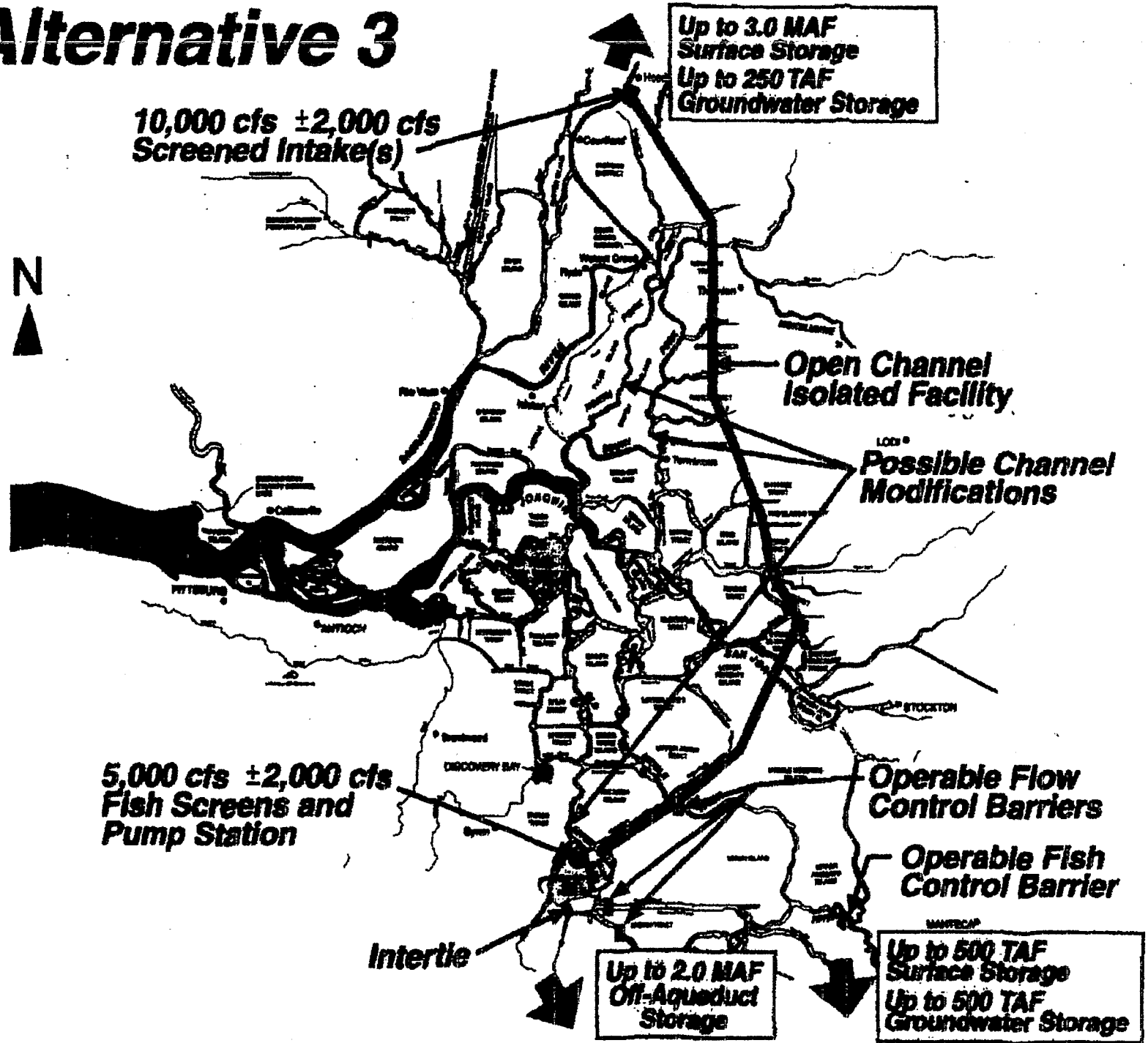
CALFED has three additional common programs, which are briefly commented on below:

1. **Levee System Integrity Program.** The focus of the levee protection element is to reduce the risk to land use, water supply, and ecosystems from catastrophic breaching of Delta levees. Although there has never been a documented levee failure from a seismic event, this program seeks to guard against that risk plus the risk from degrading levee structures with funding for special improvement projects for levee stabilization.
2. **Water Transfer Framework.** This program is designed to facilitate the water transfer process while protecting water rights and legal users of water and addressing and avoiding or mitigating other third party impacts and local groundwater or environmental impacts. CalTrout would like to see the Water Transfer program include a provision that a goal or side impact of water transfers would be the lessening of pressures to export water from the Delta.
3. **Watershed Management.** This program is designed to provide for coordination and integration of existing and future local watershed programs and to provide technical assistance and funding for watershed activities relevant to achieving the goals of the CALFED Program. This program has a heavy emphasis on recovery of endangered species.

REFERENCES

- CALFED Bay-Delta Program, Phase II Interim Report, Programmatic EIS/EIR Technical Appendix, March 1998. All of the information in the Background section is taken from this report.
- CALFED Bay-Delta Program, Ecosystem Restoration Program Plan, Programmatic EIS/EIR, Volumes I and II, Technical Appendix, March 1998
- CALFED Bay-Delta Program, Water Use Efficiency Component, Programmatic EIS/EIR, Technical Appendix, March 1998
- CALFED Bay-Delta Program, Water Quality Program, Programmatic EIS/EIR, Technical Appendix, March 1998
- Contra Costa Times, "Wilson, Babbitt Delay Tough CalFed Choices," June 17, 1998
- Correspondence, American Fisheries Society to CALFED, July 1, 1998
- Correspondence, California Trout to CALFED, May 28, 1998
- Correspondence, Congress of the United States to Secretary Babbitt and Governor Wilson, June 24, 1998
- Correspondence, Environmental Water Caucus to CALFED, June 30, 1998
- Correspondence, Governor Wilson to Honorable Newt Gingrich, June 28, 1998
- Los Angeles Times, "MWD Readies Protest as Hope for Canal Fades," September 15, 1998
- Metropolitan Water District of Southern California, Policy Statement, 1998
- National Marine Fisheries Service, West Coast Steelhead Briefing Package, July 1996
- Natural Resources Defense Council, Agricultural Solutions, Improving Water Quality in California Through Water Conservation and Pesticide Reduction, Ronnie Ann Cohen and Jennifer Curtis, March 1998
- Pacific Institute, Report to the US Bureau of Reclamation, Review of the CALFED Water-Use Efficiency Component by Dr. Peter H. Gleick, June 30, 1998
- Rozengurt, Michael, Michael J. Herz and Sergio Feld, 1987. The Role of Water Diversions in the Decline of Fisheries of the Delta-San Francisco Bay and Other Estuaries. Paul F. Romberg Tiburon Center for Environmental Studies.
- Statement of Dennis O'Connor, Assistant Director, California Research Bureau, to the Senate Select Committee On CALFED Water Program, August 5, 1998
- Steelhead Restoration and Management Plan for California, 1996. Dennis McEwan and Terry A. Jackson. California Department of Fish and Game.

Alternative 3



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